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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,635	07/07/2000	Akira Koguchi	19937-20018.00	6463

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David L. Fehrman
Morrison & Foerster LLP
Suite 3500
555 West Fifth Street
Los Angeles, CA 90013-1024

EXAMINER

SHAPIRO, JEFFERY A

ART UNIT

PAPER NUMBER

3651

DATE MAILED: 02/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/611,635

Applicant(s)

KOGUCHI, AKIRA

Examiner

Jeffrey A. Shapiro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 16-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in Application No. 09/611,635, filed on 7/7/00.

Claim Objections

2. Claim 1 is objected to because of the following informalities: the last two lines of Claim 1 appear to be grammatically awkward. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For example, it is unclear in Claim 6 what the phrase "wherein a second stage amongst the stages provided at the second section" means. Further, it is unclear what the term "external" in line 3 of Claim 6 is referring to. Claim 7 also recites the term "external" as an adjective with no reference noun.

Claim Rejections- 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 1-3, 6-9, 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Iwasaki et al. Iwasaki et al discloses the apparatus as follows.

As described in Claim 1;

1. a plurality of stages ((32) or (96), for example), on each of which a container for containing substrates (40) therein is to be placed;
2. a first section at which the substrates are taken out from the container and/or are put into the container (32);
3. wherein a first stage amongst the stages is provided at the first section;
4. a movable table ((38) or (104 or (98)) carrying the container between the first stage and another stage, while the container is placed thereon;

As described in Claim 2;

5. each of the stages has a cut-away area (100) extending from one end of the stage at least to a portion of the stage on which the container is to be placed;

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6. wherein a portion of the cut-away area corresponding to the portion of the stage on which the container is to be placed has a shape that allows the movable table to move vertically through the portion of the cut-away area (see figure 4);

As described in Claim 3;

7. a horizontal moving mechanism horizontally moving the movable table between a first position adjacent to the portion of the stage on which the container is to be placed and a second position apart from the stage;
 8. a lifting mechanism vertically moving the movable table;
- (See figure 5, noting vertical and horizontal direction arrows)

As described in Claim 6;

9. a second section (32 or 36 or 84) at which the container is received from outside the apparatus and/or is delivered to outside the apparatus therefrom;

As described in Claims 7 and 8;

10. a moving mechanism (38 or (104) moving the movable table;
11. a second section (88 or 98, for example) at which the container is received from outside the apparatus and/or is delivered to outside the apparatus therefrom,
12. wherein a second stage amongst the stages is provided at the second section (note that (98) is at a higher level than (88));

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13. wherein the moving mechanism is disposed on a level lower than that of the first and second stages (note that the moving mechanism is necessarily located at a level below all stages so as to effectively move said stages);

As described in Claim 8;

14. a first shutter isolating the second section from outside the apparatus to inhibit access to the second section from outside the apparatus;

15. a second shutter disposed on a side opposite, with respect to the second section, to a side on which the first shutter is disposed (note that at the very least, it is inherent that a shutter is used to isolate wafer cassettes from the environment);

As described in Claim 9;

16. a controller (50, 54, 52, 58, 60, 64 and 66) controlling operations of the first and the second shutters so that the second shutter is closed when the second shutter is opened (note that it is, at the very least, inherent that shutters would be controlled by said controller);

As described in Claim 14;

17. a second stage (98);

18. a third section (42);

As described in Claim 15;

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19. a passage means (100) through which the moving table moves and transports the container between the first stage and another stage;

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki et al in view of Ono et al.

Iwasaki et al discloses the apparatus as described above. Iwasaki et al further discloses the following.

As described in Claim 4;

9. the horizontal moving mechanism (140) has a guide rail (156) that guides the movable table for a horizontal movement thereof (note that it is, at the very least, inherent that a guide rail is provided);

Iwasaki et al does not expressly disclose the following.

As described in Claim 4;

10. a turning mechanism turning the guide rail in a horizontal plane between a first position where at least a portion of the guide rail is located below the portion of the stage on which the container is to be placed and a second position where the guide rail is withdrawn from a space below the stage;

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As described in Claim 5;

11. a second horizontal moving mechanism capable of moving the table together with the horizontal moving mechanism and the lifting mechanism to a position adjacent to each of the stages;

Ono et al discloses the following.

As described in Claim 4;

10. a turning mechanism (110) turning the guide rail (b1) in a horizontal plane between a first position where at least a portion of the guide rail is located below the portion of the stage on which the container is to be placed and a second position where the guide rail is withdrawn from a space below the stage (note also that cylinder (72) extends and retracts as well as rotates about its axis);

As described in Claim 5;

11. a second horizontal moving mechanism (72) capable of moving the table together with the horizontal moving mechanism and the lifting mechanism to a position adjacent to each of the stages (note also that cylinder (72) extends and retracts as well as rotates about its axis);

Both Ono et al and Iwasaki et al are analogous art because they concern movement and storage of wafer cassettes.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used the lifting and turning mechanisms of Ono et al to articulate the various individual tables at various stages in the apparatus of Iwasaki et al.

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The suggestion/motivation for doing so would have been to articulate the stages of Iwasaki et al in various directions so as to line up wafer cassettes with their targeted stages. See Claim 1, lines 23-29 of col. 18, for example.

Therefore, it would have been obvious to combine Ono et al and Iwasaki et al to obtain the invention as described in Claims 4 and 5.

Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki et al in view of Kondo et al.

Iwasaki et al discloses the apparatus as described above. Iwasaki et al does not expressly disclose the following.

As described in Claims 10-13;

20. a sensing device provided at the movable table and inspecting a condition of the substrates contained in the container, the number of substrates in the container, and whether or not there is any jump slot (empty slot) in the carrier;

21. a second sensor;

Kondo et al discloses the following.

As described in Claims 10-13;

20. a sensing device (11c) provided at the movable table (12a) and inspecting a condition of the substrates contained in the container, the number of substrates in the container, and whether or not there is any jump slot (empty slot) in the carrier (see figures 11-22 of Kondo et al);

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21. a second sensor (see figure 22, noting that said mapping sensor detects multiple wafers by using multiple sensors);

Both Kondo et al and Iwasaki et al are analogous art because they concern movement and storage of wafer cassettes.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used the sensing means of Kondo et al to sense the condition of wafers in cassettes moved and stored by the apparatus of Iwasaki et al.

The suggestion/motivation for doing so would have been to sense the parameters and condition of wafers. See figure 22 of Kondo et al.

Therefore, it would have been obvious to combine Iwasaki et al and Kondo et al to obtain the invention as described in Claims 10-13.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Flint et al, Fosnight, Tani, Akimoto et al and Kumasaka et al are all cited as examples of wafer cassette storage and movement apparatus'.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey A. Shapiro whose telephone number is (703)308-3423. The examiner can normally be reached on 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher P. Ellis can be reached on (703)308-2560. The fax phone numbers for the organization where this application or proceeding is assigned are

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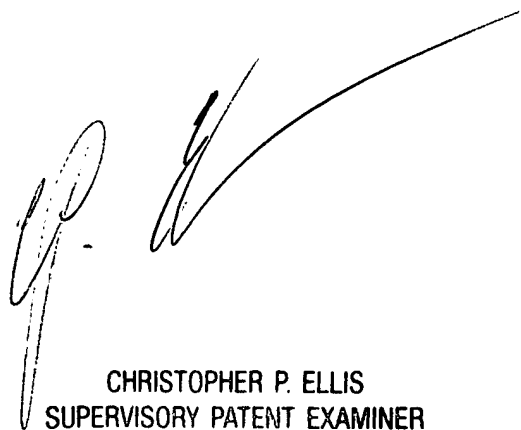
(703)308-0552 for regular communications and (703)308-0552 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1113.



Jeffrey A. Shapiro
Patent Examiner,
Art Unit 3651

February 11, 2002



CHRISTOPHER P. ELLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600